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EXAMINER

DUDNIKOV, VADIM

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/585,910	<b>Applicant(s)</b> HELMERSSON ET AL.	
	<b>Examiner</b> VADIM DUDNIKOV	<b>Art Unit</b> 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 25 and 27-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25 and 27-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **33DETAILED ACTION**

#### ***Response to Amendment***

1. Amendment filed 1/20/09 forms the basis for this Office Action.

Claims 25 and 48 have been amended. New claims 16-19 have been added. Claim 26 is canceled. Claims 25 and 27-48 are subject to examination.

Those rejections and objections that have been overcome by amendment are omitted from the present Office action and are considered withdrawn.

Amendments of Drawing and claims overcome objection of Drawing and Specification and claims rejection under 35 USC 112. Accordingly, said objection and rejections are withdrawn.

#### ***Response to Arguments***

2. Applicant's arguments see pages 6-13, filed 1/20/09, with respect to of said previous Office action have been fully considered but they are not in every respect persuasive.

Those rejections and objections that have been overcome by arguments are omitted from the present Office action and are considered withdrawn.

Applicant's Arguments on page 6, lines 16+ relating to objection of Drawing and specification, rejection of claims under 35 USC 112 are persuasive and said objection and rejections are withdrawn.

Applicant's Arguments on page 8, lines 7+ relating claims rejection under 35 USC 103 (a) do not overcome claims rejection because relating to amended claim language

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rather than rejected claim language. Applicant's Arguments relating to the amended claims are answered in the amended claims rejection.

Applicant's Arguments on page 9, lines 11+ relating to the claims 25 and 48 rejection are not persuasive because do not relating to claim language but relating to a process of manufacturing of the spacer.

Applicant's Arguments on page 11, lines 14+ relating to the claims 25 and 48 rejection are not persuasive because the claim composed with term "comprising" is not preclude to include into a claimed apparatus any other elements which is not claimed.

Applicant's request for reconsideration and allowance of amended claims 25, and 27-48 has been considered, but a reason for allowance was not found.

Rejections of amended claims are established in light of further consideration of Application, Arguments and further consideration and search of the prior Art. See rejections underneath.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 25, 31-34 and 48 are rejected under 35 U.S.C. 103(a) as being obvious over et al. ((US Patent No. 4,172,761, Raven hereinafter; cited before) in view of Raven. Regarding claims **25**, Raven teaches: A spacer (cellular grid in FIG. 1; column 1, lines 5+; column 3, lines 10+) for holding a number of elongated fuel rods (for positioning nuclear fuel rods; column 1, lines 5+) intended to be located in a nuclear plant, wherein said spacer encloses a plurality of sleeves (tubular ferrules 2 in FIG. 1), each forming a cell having a longitudinal axis and arranged to receive a fuel rod in such a way that the fuel rod extends substantially parallel with the longitudinal axis (column 1, lines 5+; column 3, lines 10+), each sleeve comprising, a sheet-shaped material formed into a substantially cylindrical shape (as shown in FIG. 6), the sheet-shaped material comprising a first connection portion in the proximity of a first end and a second

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connection portion in the proximity of a second end (as shown in FIG. 6), the first end overlapping the second end (as shown in FIG. 6), and wherein the first connection portion and the second connection portion are permanently connected to each other (as shown in FIG. 6; column 2, lines 63+).

Raven fails to disclose directly that “the first connection portion and the second connection portion are permanently connected to each other by means of at least one weld joint”.

However, it would have been obvious to one of ordinary skill in the art of nuclear reactor technology at the time of invention to include said limitation in view of Raven teaching: “the neck portion fixed in position by brazing” (column 3, lines 1+). It is in the scope of ordinary skill in the art of fuel spacer manufacturing to use brazing or welding for permanently connection of overlapped parts of grid shown in FIG. 6.

A motivation for permanently connecting the sleeve-like members with weld joints is to provide a simple, resilient, available and inexpensive means for connecting the overlapping ends of the sheet-shaped material. Thus, it would have been obvious to one of ordinary skill at the time of the invention to permanently connect the overlapping ends of the sheet-shaped material with weld joints.

Motivation for said inclusion derives from general knowledge that manufacturing of sleeve like grids by deformation and welding of sheet strip metal is well available, non-expensive and reliable technology.

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Applicant's claim limitation is characterized as an applying a known technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

The recitation of claim 25: "for holding a number of elongated fuel rods intended to be located in a nuclear plant, wherein said spacer encloses a plurality of sleeves, each forming a cell having a longitudinal axis and arranged to receive a fuel rod in such a way that the fuel rod extends substantially parallel with the longitudinal axis" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Limitations of claims **31, 32, 33**, Raven discloses all limitation of claim 25 but fails to disclose limitation: "the sleeve-like member has a material thickness, which is less than about 0.24 mm", "the sleeve-like member has a material thickness, which is less than or equal to about 0.20 mm", "the sleeve-like member has a material thickness, which is less than or equal to about 0.18 mm". However, said limitations are relating to routinely design and optimization with using of known algorithms and methods. This procedure is obvious for ordinary skill in the art and has not a patentable weight.

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A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Motivation for said inclusion derives by general knowledge that manufacturing of sleeve like grids by deformation and spot welding of a thin sheet strip metal is well available, non-expensive and reliable technology.

Applicant's claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

The limitation of claim **34**: "the sleeve-like member has an upper edge and a lower edge" is inherent for all spacers by definition.

Regarding claims **48**, Raven teaches: A fuel unit for a nuclear plant (column 1, lines 5+; column 3, lines 10+) comprising: a number of elongated fuel rods, and a number of spacers (cellular grid in FIG. 1; column 1, lines 5+; column 3, lines 10+) for holding the fuel rods (for positioning nuclear fuel rods; column 1, lines 5+), wherein the spacers enclose a plurality of sleeves (tubular ferrules 2 in FIG. 1), each forming a cell having a longitudinal axis and being arranged to receive one of said fuel rods in such a way that the fuel rod extends in parallel to the longitudinal axis (column 1, lines 5+; column 3, lines 10+), each sleeve comprising, a sheet-shaped material (as shown in FIG. 6) formed into a substantially cylindrical shape (as shown in FIG. 6), the sheet-shaped material comprising a first connection portion in the proximity of a first end and a second



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connection portion in the proximity of a second end (as shown in FIG. 6), the first end overlapping the second end (as shown in FIG. 6), and wherein the first connection portion and the second connection portion are permanently connected to each other (as shown in FIG. 6; column 2, lines 63+).

Raven fails to disclose directly that “the first connection portion and the second connection portion are permanently connected to each other by means of at least one weld joint”.

However, it would have been obvious to one of ordinary skill in the art of nuclear reactor technology at the time of invention to include said limitation in view of Raven teaching: “the neck portion fixed in position by brazing” (column 3, lines 1+). It is in the scope of ordinary skill in the art of fuel spacer manufacturing to use brazing or welding for permanently connection of overlapped parts of grid shown in FIG. 6.

A motivation for permanently connecting the sleeve-like members with weld joints is to provide a simple, resilient, available and inexpensive means for connecting the overlapping ends of the sheet-shaped material. Thus, it would have been obvious to one of ordinary skill at the time of the invention to permanently connect the overlapping ends of the sheet-shaped material with weld joints.

Motivation for said inclusion derives from general knowledge that manufacturing of sleeve like grids by deformation and welding of sheet strip metal is well available, non-expensive and reliable technology.

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Applicant's claim limitation is characterized as an applying a known technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

The recitation of claim 25: "for holding the fuel rods, wherein the spacers enclose a plurality of sleeves, each forming a cell having a longitudinal axis and being arranged to receive one of said fuel rods in such a way that the fuel rod extends in parallel to the longitudinal axis" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

6. Claims 27 is rejected under 35 U.S.C. 103(a) as being obvious over Raven et al. ((US Patent No. 4,172,761, Raven hereinafter; cited before) in view of Hirukawa (US Patent No. 5,331,679).

Regarding claim **27**, Raven discloses all limitations of claim 25 but fails to disclose the limitation: said weld joint includes a spot weld.

However, it would have been obvious to one of ordinary skill in the art of nuclear reactor technology at the time of invention to include said limitation in view of a general knowledge that a spot welding is most common method for connecting parts in

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manufacturing of grids, that often this method of connection is not disclosed in publication as obvious. This general knowledge is supported by teaching of Hirukawa who discloses a spot welding for spacers manufacturing (column 5, lines 43+).

Motivation for said inclusion derives by general knowledge that manufacturing of sleeve like grids by deformation and spot welding of sheet strip metal is well available, non-expensive and reliable technology.

A motivation for permanently connecting the sleeve-like members with point weld joints is to provide a simple, resilient, available and inexpensive means for connecting the overlapping ends of the sheet-shaped material. Thus, it would have been obvious to one of ordinary skill at the time of the invention to permanently connect the overlapping ends of the sheet-shaped material with point weld joints.

Applicant's claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

7. Claims 35-40 are rejected under 35 U.S.C. 103(a) as being obvious over Raven et al. ((US Patent No. 4,172,761, Raven hereinafter; cited before) in view of Nylind (US Patent No. 5,875,223; cited before).

On claim **35**, Raven discloses all limitations of claim 25 but fails to teach limitation: a number of ridges, which project inwardly towards the longitudinal axis and extend substantially in parallel with the longitudinal axis for abutment to the fuel rod to be received in the cell.

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However, it would have been obvious to one of ordinary skill in the art of nuclear reactor technology at the time of invention to include said limitation in view of Nykind drawn to the nuclear reactor fuel grid design, solving a similar problem, who teaches the supports 10 (four supports 10, as shown in FIGs. 3, 4, 5, column 3, lines 16+).

Motivation for said inclusion derives by general knowledge that manufacturing of the grids with ridges is useful for improving of fuel rods support.

Applicant's claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

On claim **36**, Nykind teaches: said ridges extend from the upper edge to the lower edge (as shown in FIGs. 3, 5, column 3, lines 16+).

Motivation for said inclusion derives by general knowledge that manufacturing of the grids with ridges is useful for improving of fuel rods support.

Applicant's claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

On claim **37**, Nykind teaches: each sleeve-like member includes at least four of said ridges (four supports 10, as shown in FIGs. 3, 4, 5, column 3, lines 16+).

Motivation for said inclusion derives by general knowledge that manufacturing of the grids with ridges is useful for improving of fuel rods support.

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Applicant's claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

On claim **38**, Nylind teaches: the lower edge, seen transversely to the longitudinal axis, has a wave-like shape with wave peaks and wave valleys and that the upper edge, seen transversely to the longitudinal axis, has a wave-like shape with wave peaks and wave valleys (as shown in FIG. 5, column 3, lines 28+).

Motivation for said inclusion derives by general knowledge that manufacturing of the grids with waveform edges is useful for improving of fuel rods cooling.

Applicant's claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

On claim **39**, Nylind teaches: said wave peaks are aligned with a respective one of said ridges, wherein said wave valleys are located between two adjacent ones of said ridges (as shown in FIG. 5, column 3, lines 28+).

Motivation for said inclusion derives by general knowledge that manufacturing of the grids with waveform edges is useful for improving of fuel rods cooling.

Applicant's claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

Regarding claim **40**, Raven and Nylind do not disclose the limitation: “said wave valleys of the upper edge”.

However, it would have been obvious to one of ordinary skill in the art of nuclear reactor technology at the time of invention to include said limitation in view of a general knowledge that an upper edge can have the same shape as lower edge.

The sleeve-like members abut each other in the spacer along a connection area extending in parallel to the longitudinal axis between one of said wave valleys of the upper edge and one of said wave valleys of the lower edge (as shown in FIGs. 3, 4, 5).

Motivation for said inclusion derives by general knowledge that manufacturing of the grids with waveform edges is useful for improving of fuel rods cooling.

Applicant’s claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

7. Claims 28-30 and 41-47 are rejected under 35 U.S.C. 103(a) as being obvious over Raven et al. ((US Patent No. 4,172,761, Raven herein after; cited before) and further in view of Oh et al. (US Patent No. 6,608,881 B2, Oh hereinafter; cited before).

Regarding claim **28**, Raven teaches all limitation of claim 25 but fails to teach the limitation: “the spacer including at least one vane for influencing the coolant flow”.

However, it would have been obvious to one of ordinary skill in the art of nuclear reactor technology at the time of invention to include said limitation in view of Oh drawn to the

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nuclear reactor fuel grid design, solving a similar problem, who teaches the vanes (swirl flow vanes 30, in FIGs. 8, 9, column 7, lines 10+).

Motivation for said inclusion derives from Oh teaches: to provide a spacer grid for nuclear fuel assemblies, which effectively generates a swirl flow of water within subchannels, thus improving the thermal mixing performance of the fuel assembly. Applicant's claim limitation is characterized as an applying a known technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

Regarding claim **29**, Oh teaching includes limitation: said vane is formed by a portion of the material, which extends from the first connection portion (as shown in FIGs. 8-14).

Motivation for said inclusion derives from Oh teaches: to provide a spacer grid for nuclear fuel assemblies, which effectively generates a swirl flow of water within subchannels, thus improving the thermal mixing performance of the fuel assembly. Applicant's claim limitation is characterized as an applying a known technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143)...

Regarding claim **30**, Oh teaching includes limitation: said vane is inclined in relation to the longitudinal axis (as shown in FIGs. 8-14).

Motivation for said inclusion derives from Oh teaches: to provide a spacer grid for

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nuclear fuel assemblies, which effectively generates a swirl flow of water within subchannels, thus improving the thermal mixing performance of the fuel assembly. Applicant's claim limitation is characterized as an applying a known technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

Regarding claim **41**, Oh teaching includes limitation: the sleeve-like members are permanently connected to each other by means of weld joints (column 6, lines 3+).

Motivation for said inclusion derives by general knowledge that manufacturing of sleeve like grids by deformation and spot welding of sheet strip metal is well available, non-expensive and reliable technology.

Applicant's claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results.

Regarding claim **42**, Oh teaching includes limitation: said weld joint includes an edged weld at said connection area at least one of the upper edge and the lower edge (column 6, lines 3+).

Motivation for said inclusion derives by general knowledge that manufacturing of sleeve like grids by deformation and spot welding of sheet strip metal is well available, non-expensive and reliable technology.



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Applicant's claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

Regarding claim **43**, Oh teaching includes limitation: the sleeve-like member seen in the direction of the longitudinal axis has four substantially orthogonal long sides (as shown in FIGs. 9-14).

Motivation for said inclusion derives by general knowledge that manufacturing of sleeve like grids by deformation and spot welding of sheet strip metal is well available, non-expensive and reliable technology.

Applicant's claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

Regarding claim **44**, Oh teaching includes limitation: each long side includes one of said ridges (as shown in FIGs. 10, 12-14).

Motivation for said inclusion derives by general knowledge that manufacturing of sleeve like grids by deformation and spot welding of sheet strip metal is well available, non-expensive and reliable technology.

Applicant's claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

Regarding claim **45**, Oh teaching includes limitation: said vane extends outwardly from one of said long sides (as shown in FIG. 10, 12-14).

Motivation for said inclusion derives by general knowledge that manufacturing of sleeve like grids by deformation and spot welding of sheet strip metal is well available, non-expensive and reliable technology.

Applicant's claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

Regarding claim **46**, Oh teaching includes limitation: the sleeve-like member seen in the direction of the longitudinal axis has four substantially orthogonal short sides, wherein each short side connects two of said of long sides (as shown in FIGs. 10, 12-14).

Motivation for said inclusion derives by general knowledge that manufacturing of sleeve like grids by deformation and spot welding of sheet strip metal is well available, non-expensive and reliable technology.

Applicant's claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143)...

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Regarding claim **47**, Ny lind teaching includes limitation: each short side includes with a portion of one of said wave valleys of the upper edge and a portion of one said wave valleys of the lower edge, as detailed in rejection of claim 40.

Motivation for said inclusion derives by general knowledge that manufacturing of the grids with waveform edges is useful for improving of fuel rods cooling.

Applicant's claim limitation is characterized as an applying a known, available technique to a known device (method, or product) ready for improvement to yield predictable results (MPEP 2143).

### ***Conclusion***

8. Applicant's amendments of claims and arguments filed at 1/20/09 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing

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date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vadim Dudnikov whose telephone number is 571- 270-1325. The examiner can normally be reached on 8:00 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack W. Keith can be reached, Mon-Fri 7:00am-4:00 pm, at telephone number 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information.

VD. 4/17/09.

/Rick Palabrica/

Primary Examiner, Art Unit 3663